

CLAIM AMENDMENTS

Claim 1 (Currently Amended)

An organic semiconductor composition comprising:
particles of a metal, an inorganic oxide, an inorganic nitride or polymers, and
an organic semiconducting compound having a substituent on at least one end of the compound, combining the compound chemically combined with the particles through the substituent,
wherein the organic semiconducting compound is a π -conjugated polymer or oligomer.

Claim 2 (Currently Amended)

The organic semiconductor composition of claim 1, wherein the particles are the metal particles.

Claim 3 (Withdrawn)

The organic semiconductor composition of claim 1, wherein the organic semiconducting compound combines with the particles through a sulfide group, a disulfide group, a carboxyl group, a sulfonic acid group, a sulfinic acid group, a phosphonic acid group, or a phosphate group.

Claim 4 (Withdrawn)

The organic semiconductor composition of claim 3, wherein the organic semiconducting compound combines with the particles through a sulfide group.

Claim 5 (Cancelled)

Claim 6 (Currently Amended)

The organic semiconductor composition of ~~claim 5~~ claim 1, wherein the π -conjugated polymer or oligomer is a polythiophene derivative.

Claim 7 (Original)

The organic semiconductor composition of claim 6, wherein the polythiophene derivative is a regioregular poly(3-alkylthiophene).

Claim 8 (Original)

The organic semiconductor composition of claim 7, wherein the alkyl group of the regioregular poly(3-alkylthiophene) is an alkyl group having a carbon atom number of from 4 to 15.

Claim 9 (Currently Amended)

The organic semiconductor composition of claim 7, wherein the regioregular poly(3-alkylthiophene) ~~combining~~ is chemically combined with the particles is dispersed in a solvent.

Claim 10 (Original)

The organic semiconductor composition of claim 7, wherein the solvent can dissolve the regioregular poly(3-alkylthiophene).

Claim 11 (Currently Amended)

The organic semiconductor composition of claim 7, wherein the regioregular poly(3-alkylthiophene) ~~combining~~ chemically combined with the particles is a mixture of first particles, with which poly(5-substituted 3-alkylthiophene) ~~combines~~ is chemically combined through the substituent of the 5-position, and second particles, with which poly(2-substituted 3-alkylthiophene) ~~combines~~ is chemically combined through the substituent of the 2-position.

Claim 12 (Currently Amended)

The organic semiconductor composition of claim 11, wherein the first particles, with which poly(5-substituted 3-alkylthiophene) ~~combines~~ is chemically combined through the

substituent of the 5-position, are dispersed in a first solvent to obtain a first dispersion, second particles, with which poly(2-substituted 3-alkylthiophene) ~~combines~~ is chemically combined through the substituent of the 2-position, are dispersed in a second solvent to obtain a second dispersion, and both dispersions are mixed.

Claim 13 (Withdrawn)

The organic semiconductor composition of claim 5, wherein the π -conjugated polymer or oligomer is a polyporphyrin derivative.

Claim 14 (Withdrawn)

The organic semiconductor composition of claim 13, wherein the polyporphyrin derivative is poly(imidazolylporphyrin-metal complex).

Claim 15 (Withdrawn)

A semiconductor element which is a photosensor comprising an organic semiconductor layer and two or more electrodes contacting it or an organic thin-film transistor comprising a support, a gate electrode and a gate insulation layer provided on the support, an organic semiconductor layer provided on the gate insulation layer, and a source electrode and a drain.

electrode each contacting the organic semiconductor layer, wherein the organic semiconductor layer contains an organic semiconductor composition comprising particles and an organic semiconducting compound combining with the particles.

Claim 16 (Withdrawn)

The semiconductor element of claim 15, wherein the particles are metal particles.

Claim 17 (Withdrawn)

The semiconductor element of claim 15, wherein the organic semiconducting compound combines with the particles through a sulfide group, a disulfide group, a carboxyl group, a sulfonic acid group, a sulfinic acid group, a phosphonic acid group, or a phosphate group.

Claim 18 (Withdrawn)

The semiconductor element of claim 17, wherein the organic semiconducting compound combines with the particles through a sulfide group.

Claim 19 (Withdrawn)

The semiconductor element of claim 15, wherein the organic semiconducting compound is a π -conjugated polymer or oligomer.

Claim 20 (Withdrawn)

The semiconductor element of claim 19, wherein the π -conjugated polymer or oligomer is a polythiophene derivative.

Claim 21 (Withdrawn)

The semiconductor element of claim 20, wherein the polythiophene derivative is a regioregular poly(3-alkylthiophene).

Claim 22 (Withdrawn)

The semiconductor element of claim 21, wherein the alkyl group of the regioregular poly(3-alkylthiophene) is an alkyl group having a carbon atom number of from 4 to 15.

Claim 23 (Withdrawn)

The semiconductor element of claim 21, wherein the regioregular poly(3-alkylthiophene) combining with the particles is dispersed in a solvent.

Claim 24 (Withdrawn)

The semiconductor element of claim 23, wherein the solvent can dissolve the regioregular poly(3-alkylthiophene).

Claim 25 (Withdrawn)

The semiconductor element of claim 21, wherein the regioregular poly(3-alkylthiophene) combining with the particles is a mixture of first particles, with which poly(5-substituted 3-alkylthiophene) combines through the substituent of the 5-position, and second particles, with which poly(2-substituted 3-alkylthiophene) combines through the substituent of the 2-position.

Claim 26 (Withdrawn)

The semiconductor element of claim 25, wherein the first particles, with which poly(5-substituted 3-alkylthiophene) combines through the substituent of the 5-position, are dispersed in a first solvent to obtain a first dispersion, second particles, with which poly(2-substituted 3-alkylthiophene) combines through the substituent of the 2-position, are dispersed in a second solvent to obtain a second dispersion, and both dispersions are mixed.

Claim 27 (Withdrawn)

The semiconductor element of claim 19, wherein the π -conjugated polymer or oligomer is a polyporphyrin derivative.

Claim 28 (Withdrawn)

The semiconductor element of claim 27, wherein the polyporphyrin derivative is poly(imidazolylporphyrin-metal complex).

Claim 29 (Withdrawn)

A manufacturing method of an organic semiconductor composition comprises the steps of:

dispersing, in a solvent, particles with which an organic semiconducting monomer having a linkage group combines through the linkage group to obtain a dispersion; and

adding to the dispersion a solution of an organic semiconducting dimer,

whereby the monomer and the dimer are located on the surface of the particles and a polymer of the monomer is formed between the particles.

Claim 30 (Withdrawn)

The manufacturing method of claim 29, wherein the particles are metal particles.

Claim 31 (Withdrawn)

The manufacturing method of claim 29, wherein the organic semiconducting monomer combines with the particles through a sulfide group, a disulfide group, a carboxyl group, a sulfonic acid group, a sulfinic acid group, a phosphonic acid group, or a phosphate group.